

YEROFEYEV, B.V.; CHIRKO, A.I.; TERENT'YEVA, Yu.N.

Kinetics of liquid-phase autoxidation of phenylcyclohexane.
Dokl. AN BSSR 3 no.6:244-248 Je '59. (MIRA 12:10)
(Hexane) (Oxidation)

TERENTYEVA, Z. A., DOMAN, N. G., SHKOLNIK, R. YA. (USSR)

Mode of Assimilation of Carbon during Photosynthesis.

report presented at the 5th Int'l.
Biochemistry Congress, Moscow, 10-16 Aug. 1961

DOMAN, N.G.; KRASNOVSKIY, A.A.; ROMANOVA, A.K.; VOROB'YEVA, L.M.; PAKSHINA, Ye.
V.; TERENT'YEVA, Z.A.

Chlorophyll synthesis and carbon dioxide fixation in etiolated barley
seedlings during exposure to light. Fiziol. rast. 8 no.1:3-12 '61.
(MIRA 14:3)

I. A.N. Bakh Institute of Biochemistry, U.S.S.R. Academy of Sciences,
Moscow.

(Chlorophyll) (Photosynthesis)

ROMANOVA, A.K.; DOMAN, N.G.; TERENT'YEVA, Z.A.

Effect of the age of the culture and composition of the nutritive medium on the products of $C^{14}O_2$ assimilation by hydrogen bacteria. Dokl.AN SSSR 138 no.1:231-234 My-Je '61. (MIRA 14:4)

1. Institut biokhimii im. A.N.Bakha AN SSSR. Predstavleno akademikom A.I.Oparinym.

(BACTERIA, HYDROGEN)

(BACTERIOLOGY--CULTURE AND CULTURE MEDIA)

(CARBON DIOXIDE)

DOMAN, N.G.; ROMANOVA, A.K.; TEREENT'YEVA, Z.A.

Transformation of some volatile organic substances absorbed by leaves
from the atmosphere. Dokl.AN SSSR 138 no.3:702-705 My '61.
(MIRA 14:5)

1. Predstavleno akademikom A.L.Kursanovym.
(Plants--Assimilation)

DOMAN, N.G.; ROMANOVA, A.K.; TERENT'YEVA, Z.A.

Pathway of carbon in chemosynthesis; nature of the early product of chemosynthesis in hydrogen bacteria. Dokl.AN SSSR 138 no.6:1456-1459 Je '61. (MIRA 14:6)

1. Institut biokhimii im. A.N.Bakha AN SSSR. Predstavleno akademikom A.N.Tereninym.

(BACTERIA, HYDROGEN) (BIOSYNTHESIS) (CARBON DIOXIDE)

DOMAN, N.G.; SHKOL'NIK, R.Ya.; TERENT'YEVA, Z.A.

Direct proof of the participation of phosphoglyceric acid in the reducing photosynthetic cycle of carbon. Dokl. AN SSSR 156 no. 3:698-701 '64. (MIRA 17:5)

1. Institut biokhimii rasteniy im. A.N.Bakha AN SSSR. Predstavleno akademikom N.M.Siskyanom.

ACC NR: AP6036448

SOURCE CODE: UR/0370/66/000/006/0142/0145

AUTHORS: Gurin, V. N. (Leningrad); Obukhov, A. P. (Leningrad); Terent'yeva, Z. P. (Leningrad); Bashinskaya, I. R. (Leningrad)

ORG: none

TITLE: The existence of intermetallic compounds in the system Nb-Zn

SOURCE: AN SSSR. Izvestiya. Metally, no. 6, 1966, 142-145

TOPIC TAGS: niobium, zinc, intermetallic compound, x ray analysis, crystal lattice parameter

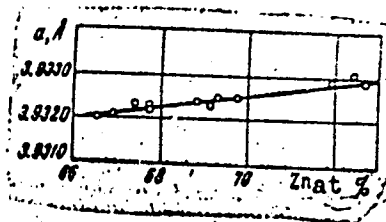
ABSTRACT: A new intermetallic compound of Nb and Zn was synthesized. The chemical composition, solubility in acids and bases at room temperature and elevated temperatures, and the lattice parameter of the compound were determined. The experimental results are summarized in graphs and tables (see Fig. 1). It was found that the compound had a stoichiometric composition of $NbZn_{2.0 - 2.7}$ and a copper type structure. The lattice parameter of the face-centered cubic lattice was $a = 3.9325 \text{ \AA}$.

Card 1/2

UDC: 546.882'47:541.123.24

ACC NR: AP6036448

Fig. 1. Dependence of the lattice parameter of compound $\text{NbZn}_{2.0-2.7}$ on the zinc content of the latter



Orig. art. has: 3 tables and 2 graphs.

SUB CODE: 11/ SUBM DATE: 13Sep64/ ORIG REF: 002/ OTH REF: 004

Card 2/2

S/032/62/028/007/006/011
B104/B102

AUTHORS: Maslov, I. A., Obukhov, A. P., and Terent'yeva, Z. P.

TITLE: Investigation into the reproducibility of a method for quickly determining unbound silicon in refractory materials

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 7, 1962, 841 - 842

TEXT: In this method, which was proposed by T. Ya. Kosolapova and Ye. Ye. Kotlyar (Zavodskaya laboratoriya, XXIV, 12, 1442 (1958)), a sample of powdered refractory material weighing 0.2 - 1.0 g, with a grain size 5 - 200 μ , is dissolved in 60 - 80 ml of a 1, 2, or 3% alkali solution at about 100°C and then filtered. The solution is neutralized and the Si is determined by gravimetry. The reproducibility of the method was determined from the mean square error of a series of measurements:

$$S_x^2 = \frac{\sum_{i=1}^m \sum_{j=1}^{n_i} x_{ij}^2 - \sum_{i=1}^m \frac{x_i^2}{n_i}}{\sum_{i=1}^m n_i - m} \quad (1)$$

Card 1/2

S/032/62/028/007/006/011
B104/B102

Investigation into the...

where S_x^2 = mean square error, m = number of analyses, n_i = number of parallel determinations, x_{ij} = results of the analyses, $X_i = \sum_{j=1}^{n_i} x_{ij}$. The error in reproducibility varies from 0.23% for 0.4% unbound Si to 0.63% for 80% unbound Si. The refractory material used here contained Si, SiO_2 , SiC, and C. There are 1 figure and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

✓

Card 2/2

L 1651-66 EWP(a)/EWT(m)/EWP(i)/ETC/EPF(n)-2/ENG(m)/ENP(t)/ENP(b) IJP(c)
 JD/WW/JG/AT/WH

ACCESSION NR: AP5021548

UR/0286/65/000/013/0012/0012
 661.888.685.002.2

AUTHOR: Gurin, V. N.; Obukhov, A. P.; Terent'yeva, Z. P.; Bashinskaya, I. R.

TITLE: Method of synthesizing metal disilicides. Class 12, No. 172285

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 12

TOPIC TAGS: metal disilicide, vanadium disilicide, niobium disilicide, tantalum disilicide, disilicide synthesis

ABSTRACT: This Author Certificate introduces a method of synthesizing vanadium, niobium and tantalum disilicides by a reaction between metal and silicon taking place in a molten metal. In order to decrease the temperature of reaction, zinc is used as the molten metal and the process is conducted at the boiling point of zinc. Reaction products are subsequently separated from the molten metal. [AZ]

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR (Physicotechnical Institute, AN SSSR)

SUBMITTED: 03Jul64
 NO REF SOV: 000
 Card 1/1 DP

ENCL: 00
 OTHER: 000

SUB CODE: IG, KM
 ATD PRESS: 4093

T-6

TERENY, A.

The hydraulic forging press is a machine tool for a heavy forge.

P. 14, Vol 4, no. 9, May 1955

SOURCE: Monthly list of East European Accessions, (EEAL), Lc, Vol. 5,
No. 3, March 1956

TERENY, A.

More economical stamp forging by means of a horizontal forging machine. p. 477.
Vol 7, no. 12, Dec. 1955. GEP. Budapest, Hungary.

So: Eastern European Accession. Vol 5, no. 4, April 1956

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755410005-3

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755410005-3"

TERENY, A.

TERENY, A. Reducing the prime cost in a stamping forge. I. (To be contd.) p. 53.

Vol. 8, No. 2, Feb. 1956.

GEP

TECHNOLOGY

Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957

TE LNY, A.

Reduction of prime cost by synchronous forging.

P. 269. (GEP.) (Budapest, Hungary) Vol. 9, No. 7/8, Oct./Nov. 1957

SO: Monthly Index of East European Accession (MEAI) LC. Vol. 7, No. 5, 1958

TERENY, A.

Justification of induction heating in our drop-forging industry. p. 516.

KOHASZATI LAPOK. Budapest, Hungary. Vol. 14, no. 11, Nov. 1959.

Monthly List of East European Accessions (FEAT), LC, Vol. ~~XXXXXXXXXXXX~~ 1960
Uncl. 9, no. 2, Feb. 1960

TERENY, Aladar

An account of the forging conference held April 20-29, 1960. Koh
lap 93 no.8:378-381 Ag '60.

AO52/A120

AUTHOR: Terény, Aladar

TITLE: Manufacturing large forgings

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no. 2, 1963, n. abstract V54 Konasz. lapok, v. 15, no. 2, 1962, 402-424, Hungarian summaries in Russian, German and English

TEXT: Economic methods of forging large-diameter rings and methods of manufacturing hollow forgings are discussed. Suggestions are made on mechanization of smith forging processes. There are 10 figures and 2 references.

M. Grinberg

(Abstracter's note: Complete translation.)

Card 1/1

L 32129-66 EWP(v)/T/EWP(k)/EWP(h)/EWP(l)

ACC NR: AP6023546

SOURCE CODE: HU/0014/65/098/012/0540/0548

AUTHOR: Tereny, Aladar (Graduate metallurgical engineer)

ORG: none

TITLE: Tool materials for and grooving of forging cylinders

SOURCE: Kohaszati lapok, v. 98, no. 12, 1965, 540-548

TOPIC TAGS: mechanical metal cutting, tool steel, forging machinery

ABSTRACT: A review was made of the operations involved in the manufacture of the cylinder segments from various steels, in the grooving of the segments, in the determination of the diameter decrease for various initial cross section configurations, in the determination of groove length, in the preparation of the works blueprints for grooved cylinders, and in the fitting of the cylinder segments. Numerical data were presented in tabular form to assist in setting up the manufacturing operations and some of the salient operations were illustrated with photographs. Equations for use in designing functions were given. Orig. art. has: 16 figures and 4 tables. [JPRS]

SUB CODE: 13, 11 / SUBM DATE: none

Card 1/1

UDC: 621.974.8/.975:669.14.018.2

TERENYI, Gyula

Manufacture of solid mullite ceramics. Epitoanyag 14 no.12:
475-478 D '62.

TERENYI, Gyula

Possibilities for the continuous combustion of oxide ceramic tubes.
Építőanyag 15 no.4:138-143 Ap '63.

1. Magnezitipari Művek Kutató Laboratóriuma.

TERENYI, Gyula

Pressing high-purity refractory materials. Epitoanyag 15
no.12:461-463 D '63.

1. Magnezitipari Művek Kutató Laboratóriuma.

TERENYI, Gyula

Injection moulding of ceramic materials. *Építőanyag* 16
no.12s455-468 D '64.

1. Research laboratory of Magnesite Industrial Works,
Budapest.

TERENYI, László

Serving the workers. Hungarian TU no.10:8-9 0 '61.

1. General Secretary of the Hungarian Printing, Paper & Press Workers' Union.

TERENYI, Laszlo

The Hungarian Printing Workers Union is one hundred years old.
Hung TU no.5:8-9 My '62.

1. General Secretary of the Printing, Paper and Press Workers'
Union.

TERENYI, Laszlo

The time for actions has come! Munka 13 no.6:14-15 Je '63.

1. Nyomda-, Papiripar es a Sajto Dolgozoi Szakszervezete
fotitkara.

TERENYI, L.

Herend porcelain. Epitoanyag 16 no. 8;283-289 Ag '64.

TKTENYI, László

Achievements of the Fine Ceramic Industry National Enterprise
at the Budapest International Fair. Epitoanyag 16 no.10:
389-390 0 '64.

TERENYI, Laszlo; ANDRASOVSKY, Gyorgy

The 125-year-old Herend Porcelain Factory. Epitoanyag 17 no.4:
149-152 Ap '65.

1. Fine Ceramic Industry National Enterprise, Budapest.

15

CA

Laboratory examination of "Germisan-Kautschukverfahren." SANDOR TERÉNYI.
Kisbél. Közlemények 31, 332-5(1928).—The germinating power of wheat will not
influenced by 0.5, 0.75, 1 and 1.5% solns. of Germisan in the ratio of 0, 4, 3 and 2 1.
to 100 kg. wheat. Germisan killed the spores of wheat not very strongly infected
(not more than 0.1% spores) quite well. Field expts. are under way. S. S. DE P.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

EST AND JND GROUPS

PROCESSING AND PROPERTY NOTES

CO

Spraying experiments with sugar beet. SANDOR TERNÁRI. *Művelésügyi Kísérleti*
Intézet, Budapest. /*Arch 4, 400-17(1931)*.--Cu-contg. fungicides increased sugar content and sugar yield
of beets. S or Ba compds. added to Cu compds. did not influence the yield, but Cu com-
bined with As or Hg compds. increased it. S. on FINALLY

ASA-35A METALLURGICAL LITERATURE CLASSIFICATION

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15

CH

Increase of action of copper salt solutions used as seed preservatives. S. TERENYI
Chem. Rundschau Mitteleuropa u. Balkan 110, 8, 1-3(1931). The effective dosage is
diminished to 25-30% of original value if Hg salts are added to Cu salts, e. g. 0.25%
Cu(NO₃)₂ and 0.005% HgBr₂. S. R. DR. FINALY

ASH-55A METALLURGICAL LITERATURE CLASSIFICATION

CA

1574

burning effect of arsenic sprays. Sámor, Terényi (Növényegésztügyi Kutatóintézet, Budapest, Hung.). *Agrárudomány* 2, 531-46(1960).—The burning effect of various sprays on the leaves of apricot and apple trees was studied during 3 yrs. The limiting concns. detrimental to leaves were for sprays contg. water-sol. As(III) compds. in the form of As_2O_3 , Na_2AsO_3 , or K_2AsO_3 at levels of 0.01, 0.0025, or 0.005, resp., for apricots and 0.03, 0.01, or 0.017%, resp., for apples. In the series of As(V) compds. the limiting values were for As_2O_5 0.03 and 0.06, Na_2HAsO_4 0.025 and 0.025, K_2HAsO_4 0.012 and 0.012, arsenic acid (CH_3COONH_4), As_2O_5 0.08 and 0.21%, and cacodylic acid 0.023 and 0.036%, resp., for apricots and apples. As_2O_3 or As_2O_5 content alone does not det. the burning effect, since this depends on the actual compn. of the spray. Water-sol. As(III) or As(V) compds. show no detrimental effect during drying. If, however, the spray remains on the leaf surface 6-24 hrs. harmful effects appear, even when the spray is subsequently removed. Preps. contg. 0.3% Schweinfurth green (I) burned apple leaves even when lime was present in the spray. An aq. soln. contg. 0.25% K arsenate was

detrimental to apricot leaves but not to apple leaves. When however, Bordeaux mixt. or Ba polysulfide or colloidal S was added, the burning effect was much greater. The detrimental effect was significantly reduced by the simultaneous use of Bordeaux mixt. and colloidal S. The effects of 40 inorg. As compds. were examd. in detail and the results given. The addn. of lime was generally advantageous and diminished the burning effect of As sprays. Some of the water-sol. As(III) and As(V) compds. showed burning effects smaller than those of I or Ca arsenate. The burning effect is due to the water-sol. compd., but insol. As compds. remaining on the surface often gradually dissolve and cause burning.

István Kónya

TERENYI, S.

Theoretical and practical aspects of substitution of copper in the protection of plants. p. 271. (Agrartudomány, Budapest, Vol. 6, no. 9, Sept. 1954)

SO: Monthly list of East European Accessions (EEAL), LC Vol 4, no. 6, June 1955 Uncl

TERENYI, S.

Experiments conducted on the effect of chemical damage

effective against the first and second generations when the larvae have not yet penetrated deeply into the nest. Chemical control of the third generation is possible with sprays containing parathion 40-50% by applying 0.36-1.7 kg per ha.

TERENYI, S.

Instructions for spraying fruit trees. p. 217
KOZLEMENYEI, Budapest. Vol 8, no. 1/2, 1955.

SOURCE: EEAL Vol 5, no. 7, July 1956.

TERENYI, S.

HUNGARY / General and Specialized Zoology. Insects. P
Insect and Mite Pests.

Abs Jour : Ref Zhur - Biol., No 10, 1958, No 44856

Authors : Terenyi, S.; Bognar, S.

Inst : Hungarian Academy of Sciences.

Title : The Burrowing Beet Moth and Results of its
Control in Hungary in 1950-53.

Orig Pub : Acta agron. Acad. sci. hung., 1956, 6, No.
3-4, 411-441

Abstract : In field experiments on the widely distributed
moth *Gnorimoschema ocellatella* Boyd 99.3% of
the larvae died from spraying with parathion
(0.06%) at an application rate of 0.36-1.9
kg/ha and 77.5% of the insects died from systox
(0.04%). DDT and hexachlorocyclohexane even
in higher concentrations and at an increased

Card 1/2

HUNGARY ; General and Specialized Zoology. Insects. P
Insect and Mite Pests.

Abs Jour : Ref Zhur - Biol., No 10, 1958 No 44856

rate were ineffective against the larvae of the older generations. The following parasites of the moth were found: Braconids-Chellenella contracta and Orgilus sp., the ichneumonid Cremastus ornatus and the predator-Chrysopa sp., the ant Tetramorium caespitum and the spider Xisticus sp. 4-17% of the moth larvae were infected with parasites. -- N. M. Dobrokhotova.

Card 2/2

TERENYI, S.

TECHNOLOGY

PERIODICAL: MAGYAR KEMIKUSOK LAPJA. Vol. 13, no. 9, Sept. 1958

Terenyi, S. Development in production and research of insecticides
in Hungary. p. 317.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

3/08/1963/000/005/0-2/036
 3/11/1963

Author: Kozula, W., Michowski, W., Terepek, J.

TITLE: Distribution ratios in fixed solvents. I. Ideal mixture of solvents. II. Non-ideal mixtures of solvents: chloroform + carbon tetrachloride and chloroform + n-hexane

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 3, 1963, 60-61, abstract 3B406 (Bull. Acad. polon. sci. Ser. sci. chim., v. 9, no. 2, 1961, 595-599; 601-604 [Eng.; summary, Russ.])

TEXT: I. The distribution is studied of 1-nitro-propane (I), o-nitro-aniline (II) and o-nitro-phenol (III) (in highly dilute solutions) between water and a mixture of isooctane (IV) + hexadecane (V) at 20[±]1°C. It was established that for an ideal organic mixture of IV + V the following relation is true: $\log K_{x_0} = x_1 \log K_{x_1} + x_2 \log K_{x_2}$, where K_{x_0} , K_{x_1} and K_{x_2} in conformity with the distribution ratio of the substance distributed between the solvent mixture and the pure solvents are expressed as a ratio
 Card 1/3

Distribution ratios in mixed ...

S/081/63/000/003/002/036
B144/B186

of the molar fraction of the substance distributed in the organic and aqueous phases, and x_1 and x_2 are the molar fractions of IV and V in the mixture. The equation is confirmed by the example of extraction of I. If the form and the dimensions of the molecules of the substance distributed differ markedly from the form and dimensions of the molecules of the solvents (e. g. in the case of II and III), the experimental data satisfy the equation: $\log K_{x_0} = \gamma_1 \log x_1 + \gamma_2 \log K_{x_2}$, where γ_1 and γ_2 are the

volumetric fractions of the solvents in the mixture. Based on the examples studied it is shown that $\log K_c/K_0 = c(\text{org.})/c(\text{aqueous})$;

(c = concentration of the substance distributed in moles/g) proves not to be a linear function of x_1 . It is noted that in the ideal mixture of

solvents $\log K_0$ can be a linear function of x_1 only in the case of the molar volumes of the solvents being equal. II. The distribution of

p-nitro-phenol (VI) (concentration 10⁻³ mole/l) between water and a conc-

centration of 10⁻³ mole/l vs. concentration of 10⁻³ mole/l
Data 2/1

TERESHCHENKO
TERESHCHENKO, A., inzh.; PONOMAREV, V., inzh.

Installing pneumatic transportation in grain mills. Muk.-elev. prom.
10:19-20 0 '57. (MIRA 11:1)
(Four mills) (Pneumatic-tube transportation)

TERESHCHENKO, A., inzhener.; PONOMAREV, V, inzhener.

Improvement of technology employed at farm mills. Muk.-elev. prom.
23 no.4:21-22 Ap '57. (MLRA 10:5)

1. Glavnoe upravleniye mukomol'noy promyshlennosti Ministerstva
promyshlennosti prodevol'stvennykh tovarov RSFSR.
(Grain milling machinery)

Tereshchenko, A.

TELENGATOR, H., kand. tekhn. nauk; TERESHCHENKO, A., inzh.

State grain mills during 40 years. Muk.-elev. prom. 23 no.11:26-
27 N '57. (MIRA 11:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov
yego pererabotki (for Telengator). 2. Gosudarstvennaya planovaya
komissiya Soveta Ministrov RSFSR (for Tereshchenko).
(Grain milling)

POKHAREV, V., inzh.; TERESHCHENKO, A., inzh.

Producing high-grade flour at rural mills. Muk.-elev.prom. 25
no.12:25-26 D '59. (MIRA 13:4)
(Flour mills)

TERESHCHENKO, A.

AVB-400 rotary drilling rig. Nev.neft.tekh.:Bur.no.7:8 '48.
(Oil well drilling--Equipment and supplies) (MLRA 9:4)

TERESHCHENKO, A.

L 6-3 draw works. Nev.neft.tekh.:Bur.no.7 :2-3 48(MIRA 9:4)
(Oil well drilling--Equipment and supplies)

ZINENKO, V.A.; PODKOSHA, G.P.; TERESHCHENKO, A.A.; TKACHENKO, A.P.;
KRASOVSKIY, Yu.r.

Ways of lowering the seismic action of large-scale blasts in
a pit of the Central Ore Dressing Combine. Gor. zhur. no.9:72
S '62. (MIRA 15:9)

(Krivoy Rog Basin--Blasting)

ARSENT'YEV, A.I., dotsent; YESHCHENKO, A.A., inzh.; BOYKO, N.P., inzh.;
TERESHCHENKO, A.A., inzh.

Constructing an open-pit in the Central Ore-Dressing Combine. Izv.
vys.ucheb.zav.; gor.zhur. 5 no.2:75-81 '62. (MIRA 15:4)

1. Krivorozhskiy gornorudnyy institut (for Arsent'yev, Yeshchenko).
2. TSentral'nyy gornoobogatitel'nyy kombinat (for Boyko, Tereshchenko).
(Krivoy Rog Basin--Strip mining)

U

ALEKSEYEV, F.K.; ANDRIYUTS, G.L.; ARSENT'YEV, A.I.; ASTAF'YEV, Yu.P.;
BEVZ, N.D.; BEREZOVSKIY, A.I.; GENERALOV, G.S.;
DOROSHENKO, V.I.; YESHCHENKO, A.A.; ZAPARA, S.A.; KALINICHENKO, V.F.;
KARNAUSHENKO, I.K.; KIKOVKA, Ye.I.; KOBOZEV, V.N.; KUPIN, V.Ye.;
LOTOUS, V.K.; LYAKHOV, N.I.; MALYUTA, D.I.; METS, Yu.S.; OVODENKO,
B.K.; OKSANICH, I.F.; PANOV, V.A.; POVZNER, Z.B.; PODORVANOV, A.Z.;
POLISHCHUK, A.K.; POLYAKOV, V.G.; POTAPOV, A.I.; SAVITSKIY, I.I.;
SERBIN, V.I.; SERGEYEV, N.N.; SOVETOV, G.A.; STATKEVICH, A.A.;
TERESHCHENKO, A.A.; TITOV, O.S.; FEDIN, A.F.; KHOMYAKOV, N.P.;
SHEYKO, V.G.; SHEKUN, O.G.; SESTAKOV, M.M.; SHTAN'KO, V.I.

Practice of construction and exploitation of open pits of Krivoy
Rog Basin mining and ore dressing combines. Gor. zhur. no.6:
8-56 Je '63. (MIRA 16:7)

(Krivoy Rog Basin--Strip mining)

NOVOZHILOV, M.G., prof., doktor tekhn. nauk; DRUKOVANYI, M.F., kand.
tekhn. nauk; YEFREMOV, E.I., gornyy inzh.; TERESHCHENKO, A.A.,
gornyy inzh.; SHESTAKOV, M.M., gornyy inzh.; PIL'NIK, I.L.,
gornyy inzh.

Experience in blasting of high benches at the Krivoy Rog Basin
Central Mining and Ore Dressing Combine. Gor. zhur. no.11:
29-33 N '63. (MIRA 17:6)

1. Otdeleniye gornorudnykh problem AN UkrSSR (for Novozhilov,
Drukovanyy, Yefremov). 2. Tsentral'nyy Krivorozhskiy gorno-
obogatitel'nyy kombinat (for Tereshchenko, Shestakov, Pil'nik).

DRUKOVANYI, M.F., kand. tekhn. nauk; YEFREMOV, E.I., gornyy inzh.;
TERESHCHENKO, A.A., gornyy inzh.; SHESTAKOV, F.K., kand. tekhn.
nauk; MALYY, I.S., gornyy inzh.

Crushing of rocks in blasting paired benches in the Central and
Ingulets Mining and Ore Dressing Combines in the Krivoy Rog
Basin. Vznv. delo no.53/10:147-156 '63. (MIRA 16:8)

1. Otdel gornorudnykh problem AN UkrSSR (for Drukovanyy,
Yefremov). 2. Tsentral'nyy gornoobogatitel'nyy kombinat
(for Tereshchenko, Shestakov). 3. Inguletskiy gornooboga-
titel'nyy kombinat (for Alekseyev, Malyy).
(Krivoy Rog Basin--Blasting)

1. The first part of the document is a list of names and titles of the participants in the meeting. The names are listed in the order in which they spoke. The titles are listed in the order in which they were given. The names are listed in the order in which they spoke. The titles are listed in the order in which they were given.

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755410005-3

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755410005-3"

PODKOSHA, G.P., gornyy inzh.; TERESHCHENKO, A.A., gornyy inzh.

Using igdanite at an iron ore strip mine. Vzryv. delo no.54/11:
266-267 '64. (MIRA 17:9)

1. Rudnik Krivorozhskogo tsentral'nogo gornoobogatitel'nogo
kombinata.

BONDAR', A.P.; LOTOUS, V.K.; TPRESHCHENKO, A.A.

Experience in using combined transportation in strip mines. Gor.
zhur. no.6s74-75 Ja '65. (MIRA 18:7)

1. Krivorozhskiy TSentral'nyy gornoobogatitel'nyy kombinat.

YEFREMOV, E.I., kand. tekhn. nauk; BURLAKA, A.V., inzh.; TERESHCHENKO, A.A., inzh.; SUKHAREVSKIY, B.N., inzh.

Further improvement of boring and blasting operations with high benches in open-cut mines of the Krivoy Rog Central Mining and Ore Dressing Combine. Vzryv. delo no. 57/14: 162-167 '65. (MIRA 18:11)

1. Filial Instituta mekhaniki AN UkrSSR (for Yefremov, Burlaka).
2. Krivorozhskiy Tsentral'nyy gornoobogatitel'nyy kombinat (for Tereshchenko, Sukharevskiy).

ANTIPOV, A.A., inzh.; POPOV, V.G., kand.tekhn.nauk; TERESHCHENKO, A.F.,
kand.tekhn.nauk

Methods of calibrating propeller shafts. Sudostroenie 29 no.10:
64-66 0 '63. (MIRA 16:12)

TERESHCHENKO, A.F.

Methodology for the measurement of the temperature of surfaces.
Zav. lab. 30 no.3:317-318 '64. (MIRA 17:4)

1. Nikolayevskiy korablestroitel'nyy institut.

TERESHCHENKO, A. F., CAND TECH SCI, ^{study} "INVESTIGATION OF
HIGH-TEMPERATURE CHARACTERISTICS OF ^{the} STRENGTH AND PLASTICITY
OF HEAT-RESISTANT MATERIALS IN ^{the} TEMPERING OF SPECIMENS BY THE
ELECTRICAL RESISTANCE METHOD." KIEV, 1961. (ACAD SCI UKSSR.
INST OF METALLOCERAMICS AND SPECIAL ALLOYS). (KL-DV, 11-61,
223).

-187-

34718

S/137/62/000/002/099/14
A060/A101

18.8200

AUTHOR: Tereshchenko, A. F.

TITLE: On the heating of specimens by electric current for high-temperature testing

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 78, abstract 21526
("Sb. nauchn. tr. aspirantov Kiyevsk. politekhn. in-ta", Kiyev, 1961, 151-161)

TEXT: The conclusions of several authors as to the specific action of electric current upon the heterogeneous structure of an alloy and as to the influence of electric current upon the mechanical characteristics of materials are set forth. The results are cited of the experimental study of the authors by comparing the characteristics of strength and ductility of steel 1X18H9T (1Kh18N9T) and of metallo-ceramic materials on Si-carbide base under momentary tension with heating in a furnace and by electric current. The law of temperature distribution along the length and over the sections of the specimen under heating with electric current is described with sufficient precision by parabolic curves. No "Heweling effect" was uncovered in the course of stationary heating of steel

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On the heating of specimens ...

S/137/62/000/002/099/144
A060/A101

1Kh18N9T between the limits of 400 and 900°C. It is indicated that the heating by electric current yields a slight decrease in strength (by 5 - 8%), and the σ_s and σ_e of steel determined according to the usual methods are then higher than after heating in a furnace. No considerable difference in the tensile strength characteristics of steel and also of metallo-ceramic materials on Si-carbide base at 800 - 1,200°C was established. There are 10 references.

V. Ferenets

[Abstracter's note: Complete translation]

Card 2/2

S/137/62/000/001/049/237
A060/A101

AUTHOR: Tereshchenko, A. F.

TITLE: On the influence of the heating method upon the durability of certain metallo-ceramic materials

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 37, abstract 10279 ("Poroshk. metallurgiya", 1961, no. 3, 75 - 78 [English summary])

TEXT: Using the example of durability testing (~200 hrs) of a composition on a base of Cr_3C_2 and SiC at 900 and 1,000°C, it was demonstrated that heating in a furnace and heating by the passage of electric current yield similar practical results, but the temperature distribution along the specimen length is considerably better in the first instance. The temperature drop between the middle of the specimen and its edges (total length 40 mm) under heating in a furnace up to 1,000°C constituted ~50°C, and under heating by electric current in cooled clamps - 250°C, and in uncooled clamps ~200°C.

R. Andriyevskiy

[Abstracter's note: Complete translation]

Card 1/1

S/032/61/027/001/021/037
B017/B054

AUTHORS: Tereshchenko, A. F. and Pisarenko, G. S.

TITLE: Effect of the Heating Method on Mechanical Characteristics
of 1X18H9T(1Kh18N9T) Steel in Elongation

PERIODICAL: Zavodskaya laboratoriya, 1961, Vol. 27, No. 1, pp. 81-84

TEXT: The authors made comparative studies of the effect of the heating method on mechanical characteristics (strength and refractoriness) of 1X18H9T (1Kh18N9T) steel. Tests were made by the East-German test machine DCT-5 (DST-5). Asbestos-insulated specimens were heated by electric current and in a furnace; it was found that specimens heated by electric current showed a 5-8% decrease in strength. This is explained by the fact that electric heating causes uneven temperature distribution along the steel specimens. The authors studied the strength, plasticity, and local plastic deformation of the specimens. The elasticity and fusibility of specimens were higher when heated by electric current than in the furnace. In addition, mean and uniform elongation were lower, while local plastic deformation was higher. Relative shrinkage and maximum elongation in

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Effect of the Heating Method on Mechanical
Characteristics of 1X 18H9T (1Kh18N9T)
Steel in Elongation

S/032/61/027/001/021/037
B017/B054

percent were the same in both cases. There are 3 figures.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii
nauk USSR (Institute of Powder Metallurgy and Special Alloys,
Academy of Sciences UkrSSR)

Card 2/2

S/032/63/029/002/024/028
B101/B186

AUTHOR: Tereshchenko, A. F.

TITLE: Circuit for temperature programming in long-duration tests
of heat resistant alloys

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 2, 1963, 232 - 234

TEXT: A simple circuit (Fig. 2) is suggested for programming the temperature change in long-life tests and creeping tests. The programming is effected by timing relays. The thermocouple $T(T)$ switches on the contacts $K\pi_1$ (KP_1) or $K\pi_2$ (KP_2) of the controlling potentiometer $\pi(P)$. KP_1 is switched on when the temperature of the specimen is lower than the mean temperature t_m or lower than the temperature adjusted by the potentiometer. discs. The timing relay PB_1 (RV_1) adjusts the delayed switching from lower to higher temperatures and the relay PB_2 (RV_2) adjusts the delayed switching from higher to lower temperatures.. Type $PB-88$ ($RV-88$) is recommended as timing relay which permits a delay of 0 to 120 sec. If the temperature of the specimen is lower than t_m then the furnace is fed with an increased wattage over the closed contacts KP_1 , $K\pi(KRP)$ and KPB_1 (KRV_1).
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Circuit for temperature programming...

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After t_m is attained the heating current is not reduced immediately but after the time adjusted at the relay RV2. t_m is adjusted at the variator PHO-5-250 (RNO-5-250). There are 3 figures.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov Akademii nauk USSR (Institute of Powder Metallurgy and Special Alloys of the Academy of Sciences UkrSSR)

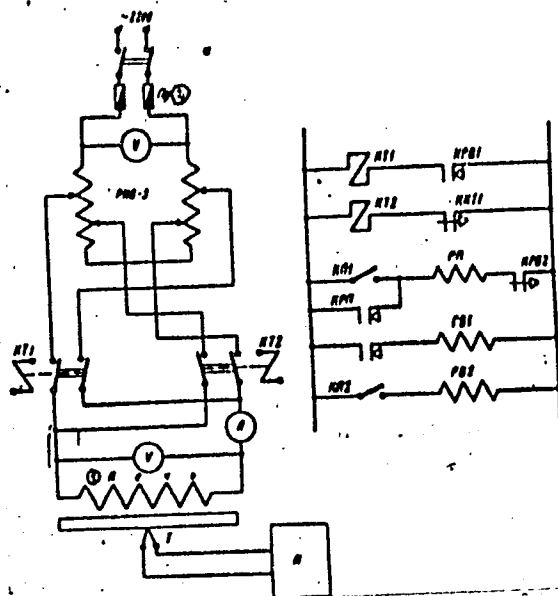
Fig. 2. Circuit for temperature programming; (a) heating circuit; (б) control circuit. KT1 (KT1) and KT2 (KT2) - contactor coils; PП (RP) intermediate relays; KKT1 (KKT1) and KKT2 (KKT2) - contacts.

Legend: (1) furnace; (2) fuse.

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Circuit for temperature programming...

S/032/63/029/002/024/028
B101/B186



Card 3/3

L 1722-66 INT(c)/EE

ACCESSION NR: AP5023125

UR/0103/65/026/009/1646/1648
621.376.223

AUTHOR: Tereshchenko, A. F. (Moscow)

TITLE: High-sensitivity semiconductor-type pulse modulators

SOURCE: Avtomatika i telemekhanika, v. 26, no. 9, 1965, 1646-1648

TOPIC TAGS: pulse modulation 4 5

ABSTRACT: To eliminate a low-level d-c amplifier with its undesirable zero-point drift, a high sensitivity pulse modulator is suggested which essentially consists of an interrupter, a linear pulse amplifier, a phase-sensitive level limiter, and a relaxation generator; the latter develops either a pulse-duration or pulse-rate signal and also serves as an interrupting-voltage source. These results of experimentation with a laboratory model of a pulse-duration modulator operating at a conversion frequency of 5 kc are reported: an output-pulse modulation of 70% corresponds to a 10-mv input signal from a sensor of 20-kohm resistance; nonlinear distortion, % or less; nonuniformity of the frequency characteristic, % within a signal-frequency band of 0-1 kc; spurious modulation, % for temperatures from +20 to +50C. Orig. art. has: 4 figures. [03]

Card 1/2

L 1722-66

ACCESSION NR: AP5023125

ASSOCIATION: none

SUBMITTED: 21Jan65

NO REF SOV: 002

ENCL: 00

OTHER: 000

SUB CODE: EC

ATD PRESS: 4096

Card 2/2

ACC NR: AP6035907

SOURCE CODE: UR/0413/66/000/020/0152/0152

INVENTOR: Tereshchenko, A. F.

ORG: none

TITLE: Differential-type low voltage-to-pulse frequency converter. Class 42, No. 187401

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 152

TOPIC TAGS: voltage converter, digital analog converter, *frequency converter*, *amplitude modulator*, *amplitude modulation*

ABSTRACT: An Author Certificate has been issued for differential-type low voltage-to-pulse frequency converter containing a transistor amplitude modulator in each input,

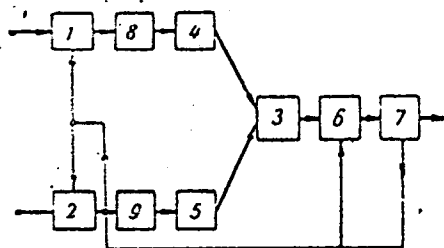


Fig. 1. Frequency converter

1, 2 - Modulators; 3 - differential amplifier; 4, 5 - matching units; 6 - level-holding unit; 7 - oscillator; 8, 9 - separation unit.

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UDC: 681.142.07:621.314.5

ACC NR: AP6035907

amplifying and matching units, a phase-sensitive level-holding unit, and a relaxation oscillator whose oscillation frequency depends on input voltage. To increase sensitivity and also to translate several source signals simultaneously, separation units are added between the modulators and matching units (see Fig. 1). Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 04Jan65/

Card 2/2

TERESHCHENKO, A. I.

Tereshchenko, A. I. -- "Several Operating Conditions of a Multielement
Magnetron With a Grid." Cond Phys-Math Sci, Khar'kov State U,
Khar'kov 1953. (Referativnyy Zhurnal--Fizika, January 54)

SO: SUM 168, 22 July 1954

TERESHCHENKO, A. I.

"Application of a Discriminator to Measurement of Small Capacities"
Uch. Zap. Kharkovskogo Univ., 4, 1953, pp 211-214

Small capacities are measured by a device consisting of a transition oscillator and a discriminator. The slope of the discriminator characteristic depends on the difference of the capacitors connected in parallel with the diodes of the discriminator. The device is able to measure capacity below 0.5 mmf with an order of accuracy of $5 \cdot 10^{-3}$ mmf. (RZhFiz, No 2, 1953)

SO: Sum. 432, 12 May 55

90W/142-58-4-29/30

TITLE: All-Union Session Marking "Radio Day" (Vsesoyuznaya nauchnaya sessiya, posvyashchennaya "Dnyu Radio")

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Radiotekhnika, 1968, Nr 4, pp 517-521 (USSR)

ABSTRACT:

During the period May 12-17, 1958, an All-Union Scientific Session was held in Moscow, devoted to "Radio May". It was organized by the Scientific Technical Association for Radio-Engineers and the Electro-Communication Engineering Institute. The session, 25 in the field of information theory and more than 20 in the field of electronics, dealing with theoretical/experimental research on electronic equipment. V.I. Sidorov spoke on "The Transmission Capacity of Single-Way and Multi-Way Communication Canals". L.I. Filizpov looked at the potential interference resistance of an ideal radio receiver. D.A. Smolyak

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resistance of an ideal radio receiver. V.I. Koshin spoke on "The Transmission System of Electric Signals by the Optical Code of Shannon-Fano." A.A. Zakharenko and A.G. Poyarkov discussed "On the Possibility of Using a Self-Organizing Channel for Determining Weak Signals in Noise," and I.M. Fink examined "The Potential Interference Resistance in a Non-Definite Signal Phase". V.A. Kashirin and G.A. Shmatova discussed "The Optimal Parameters of the Tele-measuring System with regard to Interference Resistance". B.S. Piyavman spoke on the question of creating an optical code - in the Shannon conception - in the case of a binary asymmetrical channel. L.P. Zhurdonin discussed "The Method of Creating Several Codes with a Simple Base". In the field of electronics, V.A. Tarasov spoke on "Spontaneous Electromagnetic Radiation and Recording of Electromagnetic Fields for Ultra-high Frequency Utilization of Tubes with a Sequential and Simultaneous Utilization of tubes with a cathode net. O.F. Smirnov, V.P. Samoylov, A.K. Khimova and A.S. Bondarev examined "Use of the Radiance with a High-Coincidence Factor for Examining Electromagnetic fields in resonators and wave guides".

Card 27:

the high-voltage field for laminating, the electrostatic field for the electrostatic solution, and the magnetic field for the solution of oscillatory magnetism. The author also presents a solution of the problem of the solution of oscillatory magnetism. The author also presents a solution of the problem of the solution of oscillatory magnetism. The author also presents a solution of the problem of the solution of oscillatory magnetism.

Magnetic Reconnection Field With a Crust,"
Yakovlev-Karpenko spoke on "Neutron Star
Stations" and Y.M.Katukhina and Z.L.Kozlov discussed
"Bridge Methods of Combining the Outputs of Several
Generators".

generators." "G. N. Kevlishvili spoke on 'The Theory of Non-Linear Oscillations in Radio Engineering'." "V. A. Brenay and G. I. Syutkin spoke on 'The Electro-magnetic Radiation in Systems not Conditioned by the Theory of Reciprocity in the Ultra-High Frequency Range'."

М. В. Галаев,
А. С. Топор
О состоянии работы параметрических усилителей СВЧ в системах автоматизации поиска слабых сигналов.

В. О. Салаев
О предельных параметрах внешнего экранирования преобразователей микроволнового диапазона.

9 июня
(с 18 до 22 часов)

А. Д. Виноградов
О влиянии граничной частоты в теории экранирования антенн.

Г. А. Зайцев
О взаимодействии экранирующего экрана с антенной антенны.

М. В. Галаев
Метод расчета параметрических усилителей СВЧ с учетом нелинейности.

А. М. Леонов,
Ю. Н. Николаев
Об определении коэффициента усиления для нелинейных распространяющихся в волноводной системе при наличии экранирующего экрана.

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А. В. Галаев
Взаимодействие экранирующих экранов с антенной антенны экранирующего экрана.

10 июня
(с 10 до 18 часов)

А. М. Тарасов,
М. В. Киреев
О взаимодействии экранирующего экрана с антенной антенны экранирующего экрана.

М. В. Киреев,
А. В. Рязанов
Результаты и выводы исследования экранирующего экрана.

М. В. Киреев,
М. В. Рязанов,
В. В. Рязанов
Расчетные результаты исследования экранирующего экрана.

М. В. Киреев,
М. В. Рязанов,
В. В. Рязанов
Расчетные результаты исследования экранирующего экрана.

М. В. Киреев,
М. В. Рязанов,
В. В. Рязанов
Расчетные результаты исследования экранирующего экрана.

М. В. Киреев,
М. В. Рязанов,
В. В. Рязанов
Расчетные результаты исследования экранирующего экрана.

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report submitted for the Centennial Meeting of the Scientific Technological Society of
Radio Engineering and Electrical Communications in A. S. Popov (VSEI), Moscow,
8-12 June, 1959

SOV/115-59-5-24/27

9(3), 28(2)

AUTHOR: Tereshchenko, A.I.

TITLE: Installation for Measuring Dielectric Shielding Factors on Extra High Frequencies

PERIODICAL: Izmeritel'naya Tekhnika, 1959, Nr 5, pp 54-55 (USSR)

ABSTRACT: In the Khar'kov State University the author has found a method (Ref.1,2,3) and constructed a device to measure dielectric shielding factors. It is based on the phase sensitivity of a wave guide crystal control. The crystal control serves for a comparison of the phase of the waves. These are reflected by the dielectric which is to be measured and by the standard resonator. The result of this comparison shows in the located current of the crystal control, which is proportional to the dielectric shielding factor of the sample. This method is used for testing high frequency dielectrics with small losses. With the help of a special cuvette it can also be used for liquid and gas dielectrics. There are 1 layout and 4 Soviet references.

Card 1/1

SHUBARIN, Yuriy Vasil'yevich; MISHCHENKO, Yu.A., dotsent, retsenzent;
SHIPRIN, Ya.S., dotsent, retsenzent; ~~TERESHCHENKO, A.I.~~, dotsent,
otv.red.; BAZILYANSKAYA, I.L., red.; NIKULINA, N.I., tekhred.

[Microwave antennas] Antenny sverkhvysokikh chastot. Khar'kov,
Izd-vo Khar'kovskogo gos.univ., 1960. 283 p.

(MIRA 14:1)

(Antennas (Electronics))

DUBINSKIY, L.M.; ZAMANSKIY, S.M.; LOPATA, A.Ya.; MAN'KO, N.S.; REZNIK, N.D.; SKARZHEVSKIY, R.A.; TERESHCHENKO, A.I.; KOSTENKO, G.F., red.; TARASINKEVICH, P.P., red.; KAPLINSKIY, L.A., red.; SOROKA, M.S., red.

[The multiple-spindle 1261M and 1262M automatic lathes and 1261P, and 1262P semiautomatic lathes; handbook on adjustment and servicing] Mnogospindel'nye tokarnye avtomaty 1261M, 1262M i poluavtomaty 12662P; rukovodstvo po naladke i obsluzhivaniyu. Izd. 2. Pod red. G.F.Kostenko, P.P.Tarasinkevicha i L.A.Kaplinskogo. Moskva, Mashgiz, 1960. 170 p. (MIRA 15:11)
(Lathes--Maintenance and repair)

21178

S/141/60/003/006/017/025
E192/E382

9.4210

AUTHORS: Tereshchenko, A.I. and Mints, M.Ya.

TITLE: Influence of Various Factors on the Magnitude of
Electron Frequency Shift in a Magnetron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Radiofizika, 1960, Vol. 3, No. 6, pp. 1054-1061

TEXT: The paper was read at the Scientific Technical
Conference GKRE in November, 1959.
Analysis of the equivalent circuit of a magnetron oscillator
shows that the relationship between the changes of the generated
frequency and the phase-shift angle for the high-frequency
component of the anode current and the high-frequency voltage
in the resonators is in the form (Refs. 1, 2):

$$f = f (1 + \operatorname{tg} \Theta / 2Q_H) \quad (1)$$

where Θ is the phase-shift angle between the high-frequency
component of the anode current and the high-
frequency voltage.

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Influence of

f is the generated frequency,
 f_0 is the frequency in the absence of phase-shift and
 Q_H is the quality factor of the oscillating system with load.

Eq. (1) shows that the frequency is primarily determined by mismatch angle Θ . For the determination of this angle it is possible to employ the theory suggested by Bychkov (Ref. 1). On the basis of this theory the mismatch angle Θ is expressed by:

$$\Theta = \Theta_1 - \Theta_2; \quad (3)$$

$$\Theta_1 = \arctg (K_2 \sqrt{I_0} \cos \Theta_2) \quad (4)$$

in which Θ_1 is the phase-shift angle between the induced current and voltage on the resonator and Θ_2 is the phase-shift between the tangential component of the induced

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current and the induced current itself. The angle θ is given by:

$$(1 + \lg \theta, 2Q_n)^{-1} F_0(z) = 2,275 R_2 \sqrt{I_0} \sin \theta, \quad (5)$$

$$\bar{\alpha} = \arctg (L_2 \sqrt{I_0} \cos \theta), \quad (6)$$

where the function $F_0(\bar{\alpha})$ can be expressed by (Ref. 1)

$$F_0(z) = (4 - 2,87 \sqrt{\bar{\alpha}}) (1 - \lg^2 \bar{\alpha}) - 3,6 (e^{-\bar{\alpha}} - e^{-10\bar{\alpha}}) \lg \bar{\alpha}, \quad (7)$$

A graph of this function was given in Ref. 1. I_0 in the above equations denotes the DC component of the anode current of the system. If the quantities $\alpha = L_2/R_2 \ll 1$, $\gamma = K_2/R_2 \ll 1$ and $\sqrt{L_2^2 + R_2^2} \approx R_2$, the relationship between and $x = I_0 R_0^2$ can be simplified and written as

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$$\theta = \theta_0 - \gamma \sqrt{x} \cos \theta_0; \quad (17) \quad (17)$$

$$F_0(\bar{\alpha}) = -2,275 \sqrt{x} \sin \theta_0; \quad (18) \quad (18)$$

$$\bar{\alpha} = \arctg(\alpha \sqrt{x} \cos \theta_0). \quad (19) \quad (19)$$

For values of $\bar{\alpha}$ of less than 5° , Eq. (18) can be approximated by:

$$F_0(\bar{\alpha}) = 4 - 2.87 \sqrt[4]{\alpha} \quad (20)$$

In this case, the equations for $\bar{\alpha}$ and $F_0(\bar{\alpha})$ can be solved graphically and it is possible to determine a limiting value $x = x_1$ which corresponds to the minimum value of the anode currents $I_{01} = x_1 R_2^2$. It is then possible to obtain an analytical expression for x_1 and the corresponding

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Influence of

angle θ_{01} . From this the function $\tan \theta = f(x)$ in the vicinity of $x = x_1$ can be found and it is therefore possible to determine the frequency de-tuning in the vicinity of the minimum current I_{01} . It is shown that the de-tuning is expressed by:

$$\frac{\Delta f_1}{f_0} = \frac{f(I_0) - f(I_{01})}{f_0} \approx \frac{1}{2Q_n} \left(-\gamma \sqrt{x-1} - \frac{1}{\sqrt{x-1} + z} + \lg \theta_{01} \right). \quad (39)$$

A graph of this function is shown in Fig. 2. The coefficient of the electronic frequency de-tuning can be expressed by:

$$z_1(I_0) = \frac{\partial f}{\partial I_0} = \frac{1}{4} \frac{f_0}{I_{01} Q_n} \frac{1}{\sqrt{x-1}} \left[-\gamma + \frac{1}{(\sqrt{x-1} + z)^2} \right]. \quad (40)$$

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E192/E382

From this it is seen that at $x \approx 1/\gamma$, the current is equal to $I_{02} = (1/\gamma)R_2^2$. At this current the de-tuning coefficient is zero and consequently the maximum frequency stability is achieved. From the above, it is concluded that the maximum frequency de-tuning is obtained in the vicinity of the minimum current I_{01} , while the highest stability is obtained at the anode current I_{02} . Since the high-frequency output power is proportional to the anode current I_0 , it follows that the electron de-tuning curve (Fig. 2) represents also the dependence of power on frequency. There are 2 figures, 1 table and 2 Soviet references.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet
(Khar'kov State University)

SUBMITTED: March 1, 1960

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21579

S/109/60/005/010/002/031
E033/E415

9,1310 (9/50 1130)

AUTHORS: Kovtun, N.M. and Tereshchenko, A.I.

TITLE: Investigation of the Characteristics of Resonance Ferrite Isolators (Valves) in H-Waveguides

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.10, pp.1593-1597

TEXT: The authors briefly review the properties and applications of Π - and H-shaped waveguides. The wide-band properties of the H-waveguide, together with the directional attenuation properties of resonant ferrite isolators, may be used to obtain waveguide "valves". The manner in which the forward and reverse wave attenuations, the forward-to-reverse ratio and the bandwidth depend on the dimensions of the H-waveguide are investigated theoretically and experimentally. The investigation refers to an H-waveguide such as shown in Fig.1, with a ferrite lamina placed parallel to the narrow wall of the waveguide and magnetized along the axis z . The author (H.M.Kovtun, Ref.6) has previously derived a transcendental equation for the relative propagation constant of such an arrangement and, from this equation, an expression is now obtained by successive approximation which

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expresses the forward and reverse attenuation in terms of the waveguide dimensions and the free-space wavelength. The results are presented graphically. Curves are given showing the relation between the forward and reverse wave losses and the position of the ferrite lamina in the waveguide with different values of the ratio of the waveguide dimensions g/b , g being the "bridge" dimension. For comparison, corresponding curves are given for a rectangular waveguide with dimensions a and b . The curves for the H-waveguides and the rectangular waveguides are similar; the ferrite position for minimum forward loss is the same for both and is independent of g/b . The position for maximum reverse loss moves to the centre of the waveguide as the ratio g/b is reduced. Maximum forward-to-reverse ratio occurs when the value of g/b is such that the positions of the ferrite for minimum forward loss and for maximum reverse loss coincide. The dependence of the forward and reverse losses on the position of the ferrite lamina for various values of the ratio a_4/a , a_4 being the width of the bridge. The parameter a_4/a has little effect on the position of the ferrite for maximum reverse loss and, therefore, the width a_4 can always be made such that a_0 equals

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the distance from the wall to the bridge step (up to point A in Fig.1). In this case, the lamina has direct contact with the waveguide and better cooling is obtained. Also it is easier to fix the ferrite into the waveguide. The effect of asymmetry is discussed and it is concluded that the position of the ferrite corresponding to maximum reverse loss suffers little change for small asymmetry. The frequency characteristic of the "waveguide valve", i.e. the dependence of the forward and reverse losses on frequency, was investigated experimentally. The waveguide dimensions were $a = 23 \text{ mm}$; $b = 10 \text{ mm}$; $a_4/a = 0.39$; $g/b = 0.43$. The critical frequency was 1.6 times less than for the corresponding rectangular waveguide. The positions for the ferrite lamina for minimum forward and maximum reverse loss did not quite coincide but the difference was less than in the rectangular guide. The frequency characteristics for a single ferrite lamina are presented graphically. The reverse loss is greater than 27 db and the forward loss is of the order of 1.1 to 1.2 db in the 8000 to 10300 Mc/s band. For lower frequencies, the forward loss increases sharply. To improve the bandwidth, a dielectric lamina was included. The forward loss was then

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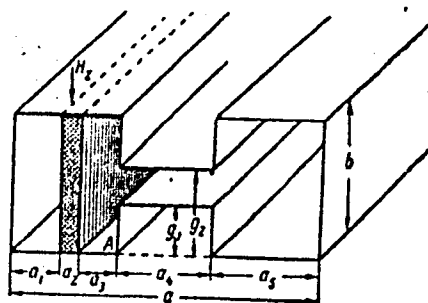
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practically constant at 0.4 db over the whole band and the forward-to-reverse ratio was not worse than 45. There are 7 figures and 6 references: 4 Soviet and 2 non-Soviet.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet
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SUBMITTED: December 26, 1959

Fig.1.



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9,1300 (1006, 1144, 1331)

AUTHOR: Tereshchenko, A. I.

TITLE: A Waveguide With "Dumbbell" Cross Section ²⁵

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 9,
pp. 1074-1076

TEXT: In the introduction, the author thoroughly discusses the advantages and disadvantages of H-type waveguides. To avoid the disadvantages of this type of waveguide, a compromising solution is suggested which combines the advantages of the H-type waveguide with those of circular and rectangular waveguides. The result of a close analysis of the properties demanded of a waveguide is the "dumbbell" cross section shown in Fig. 1. The shape of this cross section was chosen in such a way that the curvature of the electric field lines changes smoothly from one side of the waveguide to the other. It can easily be shown by physical considerations that this type of waveguide has the advantages of the H-type waveguide (wide range, low resistance, and small dimensions) with little probability of a breakdown between the upper and lower walls at the same time. The author compares a rectangular waveguide (2.3•1.0 cm) with the critical

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A Waveguide With "Dumbbell" Cross Section

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wavelength 4.6 cm, an H-type waveguide with the critical wavelength 6.05 cm, and the "dumbbell" waveguide shown in Fig. 2. The dimensions of this waveguide are: $2a = 2.3$ cm, $2b = 1.0$ cm, $2g = 0.4$ cm, and $r_A = 0.35$ cm. These data assign the "dumbbell" waveguide a certain intermediate position between the two other types. If the parameters are modified, $2g$ and r_A must be changed at the same time. An experimental investigation of the critical wavelength of the "dumbbell" waveguide yielded satisfactory results in consideration of the approximate calculation and the low accuracy of shape of the cross section. There are 2 figures and 5 references: 2 Soviet and 3 US.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo, Kafedra fiziki sverkhvysokikh chastot
(Khar'kov State University imeni A. M. Gor'kiy, Chair of High-frequency Physics)

SUBMITTED: March 14, 1960

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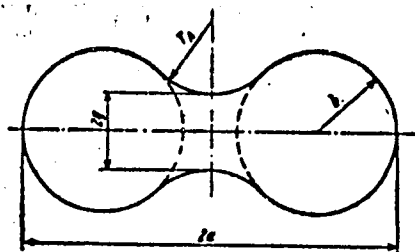


Рис. 2.

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9.1300 (1006, 1144, 1331)

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B019/B054

AUTHORS: Kovtun, N. M. and Tereshchenko, A. I.

TITLE: Calculation of the Propagation Constants in H-Type Waveguides With a Cross-magnetized Ferrite Plate

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 9, pp. 1077-1080

TEXT: The authors present some results of an investigation of the propagation constants in an H-type waveguide with a cross-magnetized ferrite plate ($a_2 = 3$ mm) which is directly fastened onto the wall of the waveguide (Fig. 1). The overall width of the waveguide is $a = 23$, its overall height $b = 10$ mm (standard 3-cm waveguide). A formula (1) is given for the propagation constant. Some results obtained by interpolation of (1) are graphically shown in Figs. 2 and 3. The authors studied the dependence of the difference in phase shifts on the antisymmetrical components of the magnetic permeability tensor at different heights of the waveguide bridge, this dependence being equal to that of a rectangular waveguide. The dependence of the maximum difference of phase shift on the bridge

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Calculation of the Propagation Constants in S/057/60/030/009/013/021
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width is linear, i.e., the maximum difference of phase shift with given parameters is the smaller, the longer the critical wavelength. This is explained by the fact that the propagation conditions in these waveguides approach those in the free space. Further, the authors conclude that it is necessary to use waveguides with short critical wavelengths to obtain large phase shifts. There are 3 figures and 9 references: 6 Soviet and 3 US.

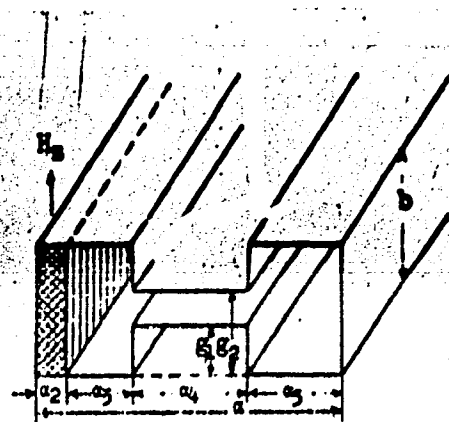
ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo
(Khar'kov State University imeni A. M. Gor'kiy)

SUBMITTED: February 8, 1960

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